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Published by Times Newspapers Limited, 1982
 Printed by Times Newspapers Limited, 1982
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Quest for the 'hidden hand'

In the short term resources and their allocation, the subject of the seventh Leverhulme seminar (pages 9 to 12), are the most immediate and most painful issue facing higher education. For from the present Government's deliberate decision to starve universities, polytechnics, and colleges of the money they need to maintain their present commitment to both students and scholarship flow nearly all the urgent difficulties which face the system. Behind the euphemisms about university "restructuring" and innocent seeming acronyms like NAB lies what can only be described as an unacceptable although presently inevitable attack on higher education itself.

This does not mean that the rather inverted and complacent university system that emerged from the Robbins expansion does not need to be restructured, although there is all the room in the world for differences of opinion about what that should involve; nor that the polytechnic and college sector does not need a NAB (and has actually acquired a sound and balanced instrument of policy in the detailed form of Mr Ball's new body).

But it does mean that only the blindly naive or the hopelessly optimistic can pretend that both processes can be detached from the bleak and shameful reality of the cuts. So in this perspective the cuts are everything; by simple and logical extension resources, or more accurately the lack of them, become the most important single issue facing British higher education.

However, in the medium and long-term, the perspective at which the whole restructuring process has to be seen is of far greater importance. Of course, the total resources invested in higher education will always be in some crude sense the bottom line. They will determine what is possible. But it is an error to imagine either that the need to establish priorities can be ducked simply by demanding more money, or that the mechanisms by which the available resources are distributed can themselves become a substitute for such necessary priorities.

The weakness of the first of these views is obvious enough. Not only in the higher education system will never receive all the money it wants or needs, but also that to imagine this to be possible even under the most fortunate political circumstances is to betray a limited view of the possibilities of higher education.

As the available resources will always be limited in some sense, those who argue that more money is the solution to all difficulties are implicitly endorsing the conservative view that the potential of higher education is also limited. But the opposite is likely to be the case; the success of higher education will probably breed new and more insistent demand and so sharpen rather than reduce the contest for priority.

The second of these views deserves to be treated with more respect. It corresponds to a natural but ultimately mistaken desire to depoliticize the process of establishing priorities within higher education. If only the mechanisms of resource allocations could make this difficult and divisive choice which a higher education system in the pair of enforced contraction must face. Better the "hidden hand" that on my head, must be the silent prayer of many in positions of leadership in universities and polytechnics.

Nor is this desire for depoliticized resource allocation confined to those who suffer most directly from its absence. There are those who believe in depoliticization as an act of well-political faith. They argue that if all students were given vouchers equal to the cost of their higher education which they could spend in

the institution of their choice a semi-free market would be created which would accurately reflect student preferences and so take all the difficult decisions about who wins and who loses which under present conditions cause so much political anxiety and controversy.

This naivety is not confined to the "privatizers" on the right. Those on the left who seek both an extension of opportunities for higher education and greater equity in the distribution of such opportunities are tempted by a similar approach. Oppressed no doubt by a strong sense of the immobility of present structures and institutions and their ability to digest reform, they are turning increasingly to their own version of vouchers, entitlements which would give every citizen the right to one (or two, or three) years of postsecondary education. This could then be topped up with loans.

However it is not always clear whether these entitlements would cover the full cost of such education, or simply replace present tuition fees and student grants. If they only did the latter and the bulk of public support for higher education was still channelled through grants to institu-

tionology of loans, is going to fall into that trap (if the DES does, the Treasury certainly won't).

There is one further difficulty, of greater concern probably to the supporters of entitlements than to the privatizers. How is it possible to prevent higher education becoming under such conditions a vehicle for (middle class?) intellectual consumerism? How could it be made to serve serious national purposes? In short how could the fiduciary role of higher education be protected, when particularly in the case of research and scholarship this role is a crucial one?

For privatizers who hold that there is no collective wisdom greater than the sum of individual wisdoms that may not be a problem, but for the left with its commitment to strengthening of public morality in national life and for higher education with its custodianship of intellectual culture the amoral and ahistorical quality of any market is a substantial difficulty.

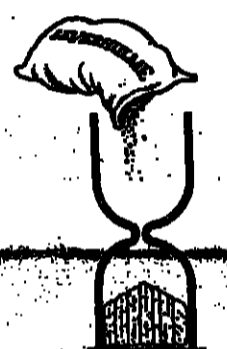
The argument has strayed a long way from resources and their allocation - which proves a point. There is no simple way in which the setting of priorities can be depoliticized in a plural society. After all, Aneurin Bevan said that politics, not economics, are "the language of priorities". The only result of wrapping up political choices in superficially neutral procedures for resource allocation will be to mystify a debate about priorities and purposes that should be as open and as explicit as possible.

In any case it is unrealistic to imagine that in the turmoil of the next few years the allocation of resources in higher education is likely to be put on an entirely different basis. What is much more likely is a steady accumulation of decision making at the centre, in institutions, in the UGC and the NAB, and in the DES. So in both the long-term "Leverhulme" and the short-term "cuts" perspective there seems little point in imagining that better principles for allocating resources will be the key that opens the door of higher education's prison.

Of course, constant attention has to be paid to improving the detailed forms of resource allocation. Indeed through the Stephen Jones group and now the NAB this is precisely what has been happening in the non-university sector over the past two years. No doubt within most institutions there is considerable room for improving the ways in which money is distributed between faculties and departments. Similarly at a national level far more attention needs to be paid to the overall amount and balance of the higher education budget, student support, fees, institutional grants, research money and so on. It is important that action in one area does not vitiate policy in another.

A frequent criticism of the policy of the DES since 1979 is that it has been myopic and expenditure-led rather than (presumably) far-sighted and determined by a broad view of the needs of higher education. There is a danger that the same mentality may spread to higher education itself not simply at the level of practice - no one can be blamed for being obsessed with the cuts - but also at the level of theory by attempting to construct a model for resource allocation that would act as the "hidden hand" and depoliticize higher education policy making.

In fact the search for a tidy physico-craic system is bound to fail: a plural system needs a plurality of resources, sources, and mechanisms for distribution, because it needs to meet a plurality of needs. And it can only do so in the context of the plural responsibilities of a free university tradition and of an informing view of broader social, political, and economic goals.



the body to recommend the closure of some colleges or polytechnics as part of the initial planning exercise, he admitted publicly for the first time this week.

Speaking at the Council of Local Education Authorities conference in Sheffield Mr Ball said only part of the 10 per cent cut signalled for higher education could be met by further retrenchment. There would have to be "amputation rather than slow starvation" and this could mean the total withdrawal of pool funds from a number of institutions.

"It would be easy to share out the 10 per cent cuts equally to all - you wouldn't need a NAB to do that; it could be done across the desk at the DES," he said. "NAB is intended to, and intends to, discriminate: that is, it will try to locate the 90 per cent of the local authority higher education provision which is most valuable and recommend its preservation and protection at the expense of the remaining 10 per cent."

He justified NAB's intention of asking each institution to make hypothetical plans for cuts of up to perhaps 20 per cent on the grounds that some institutions would be that some institutions would be bound to take cuts above the average level. "Indeed, we seriously expect to propose cuts of 100 per cent in some cases," he added.

Mr Ball went on to lay down seven principles for planning the public sector: local and regional emphasis; the "sensible web" of advanced and non-advanced provision; the "fruitful coexistence" of full-time, part-time and sandwich students; the primacy of teaching over research; the needs of students; and the economy; cost-effectiveness; and concern for quality.

Details of the planning exercise will not be agreed until September when NAB will decide on the extent of the hypothetical cuts to be calculated by institutions, as well as finally defining the programmes which will be used to group academic disciplines. However, advance warning of the methods to be used will be given to local authorities and institutions in a letter later this month.

Laurie Taylor



My Lord Chancellor, Your Grace, Lady Burnt-Chittock, Flight Lieutenant Karamosov, Deputy Superintendent Flaubert, members of Senate and Council, academic staff, parents and of course new graduates of this university. It is my pleasant duty on your Vice Chancellor to use this happy occasion to present my usual brief report on the more interesting changes and developments which have occurred in this university during the last academic year. I hope you will know such changes have been principally informed by the need to make economies of just over five million pounds, but it is an essential feature of the original UGC proposals, and, of course, of Sir Keith Joseph's overall strategy for the university sector, that any cuts or economies which might be effected should take the form of a RESTRUCTURING exercise - a significant shift in the fundamental balance of the university.

But let me be a little more specific. Over the year we have reluctantly said "goodbye and good luck to the future" to 145 of our academic colleagues who have taken advantage of the recently introduced early retirement scheme. Some examples will illustrate the principal ways in which these departures have facilitated our aim of restructuring.

In the department of very advanced but highly practical technical studies we find, for example, that a total of 14 staff have retired. The early retirement option, which together with two readers and two senior lecturers.

Restructuring of a slightly different kind is probably best illustrated by recent developments in the department of steam engineering. When 36 members of staff have decided to maintain their present positions within the university and are being engaged at the moment in negotiating terms with the particular demands created by an 80 per cent reduction in student applications.

I must emphasize that such restructuring is by no means confined to the purely academic level. The department of absolutely essential scientific development has been carefully restructured by the replacement of eleven essential technicians, while in the department of vital industrial innovation, restructuring has involved the non-replacement of fourteen academic staff and the continued presence of the previous secretarial staff of five.

Neither should it be thought that the university administration is immune to the type of restructuring which occurs elsewhere and only by fiat. Non-replacement and early retirement has now ensured the takeover of the bursar's department by the sports centre, and from next month we look forward to the department on the additional responsibility which previously occupied our centrally retired registrar.

I think that we can take pride in these last twelve months. There are some who persist in regarding universities as essentially traditional institutions, unable to move with the times, handicapped by advances in outmoded notions of decision-making. In fact we have seen in the last year that it is possible for a university community to move with the times - to adapt in the face of economic necessity and ministerial directives. In short, we have seen a wholly commendable readiness to move away from tried and trusted practices, and to abandon ourselves entirely to the operation of chance.

The Times Higher Education Supplement

July 16, 1982 No 306 Price 45p



And another contestant, this time in a bathing costume, comes up to the milk... Joanne Murray's untitled sculpture made of Modrock, a plaster-impregnated bandage, was recently included in London Central School of Art's degree show.

DES ministers to guide UGC policy

by Ngaio Crequer

A fundamental change in the relationship between government and the University Grants Committee is to be made to allow ministers to give direct guidance on "strategic decisions."

In a letter yesterday from Sir Keith Joseph, Secretary of State for Education Secretary to Dr Edward Parkes, chairman of the UGC, the minister wrote "that it might be more appropriate for ministers to take more responsibility than they have hitherto for determining priorities affecting the broad character of the allocation of resources to the universities."

Although the UGC was uniquely placed to assess the universities' needs and capacities, "the main thrust of policy for the universities must take due account of policy for higher education as a whole, and of national, social and economic policies; and at this level there will be some strategic decisions for which it would be appropriate for ministers to take explicit responsibility and to answer to Parliament."

The change was mooted by Sir Keith when he made his first public statement on higher education after becoming secretary of state, when he appeared before the Select Committee on Education in November 1981. He said there should be more Government involvement in planning decisions.

Mr William Waldegrave, the junior education minister said this week that strategic decisions meant questions like national priorities, whether there should be a 5 per cent drop in university students, whether post-vocational education should take priority, changes in the system of financing, and needs created by industrial change.

He said it was a question of developing a dialogue and attached great importance to openness. "The UGC has weathered the storm and retained its credibility but they themselves well come the assignment of responsibility. It will help to extend to the universities where the responsibility for different policies lies."

In the letter, Sir Keith endorsed the principles behind the UGC reshaping last July except to say the Government was concerned about the ability of medical schools to maintain new specialities, and the need to protect clinical services despite the cuts.

He asked the UGC for an appraisal of the restructuring progress, and its views on what the priorities should be in science and technology. He said he would encourage further initiatives such as the one in biotechnology.

He said the committee would want to look at manpower and research demands likely to contribute to the national recovery. Concern about limited opportunities for staff recruitment was widely shared and he wanted UGC views of what should be done.

But Mr Waldegrave said that perception of a need could not permit the Government to greater public expenditure.

Sir Keith also asked Dr Parkes and Mr Christopher Ball, chairman of the National Advisory Body to consider together how the two committees could best cooperate with each other and with the Government. Eventually he wanted these discussions to include the new Welsh national body, and Scottish and Northern Irish parties.

Part of the letter will also be going to Mr Ball, marking the first communication to the two bodies since Mr Waldegrave said.

Polys and colleges face \$20m shortfall

by John O'Leary

Polytechnics and colleges are likely to exceed Government spending targets by 5 per cent next year and could be \$20m short of the amount needed to maintain existing standards by 1983-4, the National Advisory Body was told this week.

The board of NAB will warn Mr William Waldegrave, under-secretary for higher education, and his local authority colleagues at the main NAB committee next week that projected student numbers are unrealistically low. They fear the true figures, combined with further inflation and a squeeze on local authority budgets, will lead to a financial crisis in the public sector.

New enrolments on advanced courses are expected to revert to last year's level of 52,900 students in 1982-3, compared with more than 60,000 this year, according to projections by the Department of Education and Science. But applications are running at record levels and all indications are that 1981-2 enrolments will be matched at least.

A paper by Mr John Bevan, secretary of NAB, warned the board such a course would lead to a significant additional squeeze on unit costs at a time when planned expenditure on public sector higher education was already likely to exceed the Government's allocation by 5 per cent. Higher student numbers would have a cumulative effect, possibly adding a further 5 per cent burden each year from 1983-4 onwards.

The likely 1983-4 advanced further education pool allocation of £535m based on the DES projections could be \$20m below the figure needed if authorities were prevented from topping up their institutions' budgets and the Government's estimate of inflation was even slightly optimistic.

Although Mr Bevan stressed his figures were extremely tentative and represented speculative projections, he forecast a shortfall of up to £25m by 1984-5.

Even without the development of such a crisis, Mr Christopher Ball, chairman of the NAB board, expects

Adamson yields to pressure

by Felicity Jones

Dr Colin Adamson, rector of the Polytechnic of Central London, has yielded to pressure to resign. A statement from the court of government said Dr Adamson, aged 59, had requested a year's sabbatical leave from July 31 to complete his research work.

The polytechnic deans last month demanded the rector's resignation and formally asked the governors to consider removing him. Last December Dr Adamson was urged to resign or retire early by senior (inner London Education) Authority councillors in an attempt to solve the polytechnic's problems.

Mr J. Walker Oakley, chairman of the governors, said Dr Adamson had made a great contribution in the time he had been rector. He added: "He leaves a firm foundation on which to build. Under his leadership, PCL has developed into a centre for teaching and research with a worldwide reputation while remaining responsive to the local needs of inner London."

The post will be advertised in the autumn and it is planned the rector designate to run in harness.

Mr Adamson's duties will be carried out by the senior professor Professor Terence Burin, continued on page 3

Privy Council suggests a tenure change

The Privy Council has written to the University College of Wales, Aberystwyth, inviting it to amend its statutes to weaken tenure. The proposal was made on the initiative of the Privy Council which is currently considering a new charter and statutes for the university.

The letter, from Mr Neville Leigh of the Privy Council in Whitehall is dated March 25, two days after Secretary of State for Education Sir Keith Joseph told the House of Commons that he welcomed the new terms proposals prepared by the Committee of Vice Chancellors and Principals, which allow for dismissal for reasons of redundancy or financial exigency. I should be grateful if you would invite your clients to consider whether statute 22 (on good cause) should not be suitably amended in respect."

The matter was discussed by the Privy Council in June when some senators concerned that the new charter statutes would not be granted out the amendment. It was agreed further to examine the question.

Mr John Akker, deputy secretary of the Association of University Teachers said: "We consider amending their constitution so as to provide for the termination of academic appointments on grounds of redundancy or financial exigency. I should be grateful if you would invite your clients to consider whether statute 22 (on good cause) should not be suitably amended in respect."

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News in brief

Business school to get research centre

The London Business School is to set up a research centre for business policy and corporate strategy on the lines of the Harvard Business School, with a grant of £1.25m over five years from Mr David Sainsbury, main shareholder in the supermarket chain.

Mobility conference

Sir Roy Marshall, Vice Chancellor of Hull University, is to chair the new Commonwealth standing committee on student mobility. It was announced this week. Among the dozen members are former Home Secretary Lord Carr, Sir Antony Finniston and Mr Chris Christodoulou, secretary general of the Association of Commonwealth Universities, as well as academics or administrators from eight other Commonwealth countries.

Dismissal money

Mrs Elizabeth Dick, the former scientific officer at Dundee University, who was found by an industrial tribunal to have been unfairly dismissed under the Sex Discrimination Act, is claiming loss of future earnings over five years.

Worldwide reputation 'declining'

A round robin circulating in London University expresses concern about the declining reputation of its humanities departments.

Industrial diploma

A new academic award is to be introduced by Ulster Polytechnic in recognition of work done by students on industrial placement. The diploma of industrial studies will be given to students judged by a panel representing both the polytechnic and local industry and will be awarded in addition to a degree.

Computing for hire

A new microcomputer applications laboratory at the University of Bradford will offer facilities to a wide range of outside users. The laboratory, which was opened last week by Sir Peter Caray, Permanent Secretary at the Department of Industry, is based in the university's school of science and society.

New Arab chair

A new professorship for the study of the contemporary Arab world will be created at Oxford University with a gift of £450,000 from Prince Khalid bin Abdullah bin Abdulrahman Al Saud of Saudi Arabia. The chair will be named after the Prince and linked to Magdalen College.

Review of sandwich courses promised

More Government money is to be found for sandwich course placements, but the costs and benefits of sandwich education are to be investigated following the publication of a Department of Education and Science review.

These measures were announced on Monday by Mr William Waldegrave, junior education minister. He told the House of Commons that the Government was concerned at the shortfall in sandwich placements, "particularly where this affects disciplines vital to the country's economic welfare".

So the Manpower Services Commission would make 500 extra grants to fund placements for students in engineering and applied technology course, a 25 per cent increase in this

part of the MSC's programme. And the commission's support for computer science sandwich placements would expand by 30 per cent, giving a further 75 places.

Despite this apparent endorsement of the value of sandwich provision, Mr Waldegrave said the review had found "little firm evidence in support of sandwich courses".

There was widespread agreement that a comprehensive assessment of sandwich provision was needed, and the Government had set aside £50,000 for research comparing sandwich courses with other teaching.

The DES review says the benefits of sandwich courses tend to be regarded as self-evident, and that, "unquestioning acceptance of the value of sandwich courses... is not a satisfactory basis on which to continue to incur the substantial addi-

tional costs of sandwich provision". Most of those questioned agreed with this assertion, but there was a wish to see more support for sandwich arrangements to make up the shortfall in places.

And the shortfall revealed by a study carried out at Brunel University was extensive. The Brunel team estimated that 4,000 of 30,000 sandwich course students would be left without placements and non-degree course students from polytechnics would be the least favoured candidates.

Over all types of institution, engineering and technology students, who make up more than 40 per cent of the total sandwich population, faced a 15 per cent shortfall in industrial places.

And most placement officers expected the filling in the sandwich to

be spread still thinner in the immediate future unless short-term subsidies were increased.

The DES review also suggests that the basis of MSC support for sandwich courses is poorly understood, especially in education circles, although the teaching institutions countered with criticism of the complexity of current arrangements. Indeed, the Council for National Academic Awards wrote that the MSC system constituted "an all but impenetrable bureaucracy" that only large industries could find a way through.

However, there was little support for the creation of a central placement clearing house, and most respondents felt that in the short term an increase in grants through the existing mechanisms was the most feasible answer to the shortfall.



The Queen, who became the first reigning monarch since James VI in 1617 to visit St Andrews University, is greeted by Sir Kenneth Dover, chancellor of the university. She was presented with a miniature St Andrews gown as a gift from Prince William. Prince Phillip also visited Edinburgh University, where he is seen inspecting a heart rate monitor designed by Dr Ron Mackie, deputy director of the Wolfson Microelectronics Institute. Later he opened the Eric Liddell Fitness Training Centre.



Wrong information deters unemployed

Wrong information given to unemployed applicants for adult education - including the mistaken insistence by colleges that they must study for 21 hours - is putting off large numbers, according to a paper read at the twelfth annual conference of the Standing Conference on University Teaching and Research into the Education of Adults (SCUTREA).

A study of 116 long-term unemployed people in Scotland, carried out on behalf of the Scottish Education Department by Glasgow University's adult and continuing education department, discovered that six central Scottish further education colleges had told telephone applicants they must take courses totalling 21 hours.

According to the researcher, Ian Bryant, this was a misinterpretation of DHSS regulations which simply specify a maximum 21-hour study commitment for people on social security.

Scots research review proposed

Proposals for a review of research into adult education in Scotland on the lines of that done in England and Wales by the National Institute for Adult Education, have been put forward by the Scottish Institute for Adult Education. Professor Lalage Bown of Glasgow University told the conference.

With £20,000 the review could begin by the end of the year, based at Glasgow but jointly run between Glasgow and Strathclyde universities, in particular using Strathclyde's computer and the computing skills of its school of librarianship.

It would start by taking Scottish research already collected by the NIAE and collating that with its own collection, said Professor Bown.

Academic life and politics can mix

An MP who combines academic life with political practice can provide great insight into how the country works but such people are becoming increasingly rare, the Hansard Society was told last week.

The parliamentary society was holding a memorial meeting in the Reform Club in London to celebrate two new books of the writings of a former chairman, John Mackintosh MP for Berwick and East Lothian from 1966 to 1978 who died of a heart tumour at 48.

Professor Bernard Crick, professor of politics at Birkbeck College, London, described how Mackintosh would spend two days in Edinburgh in politics and three days in Westminster each week.

Links forged across Atlantic

The inaugural meeting of an Anglo-American association for adult education took place at the conference. It was intended to encourage exchanges of research and university changes between Britain and North America, including Canada.

The organization promoting it across the Atlantic jointly with SCUTREA will be the Commission of Professors of Adult Education in America. Their first joint activity will be to compile and circulate a register of research interests.

Later, the association hopes to keep members informed of transatlantic visits by other members, exchange ideas on syllabus and curriculum, and encourage joint research projects.

Adamson yields to pressure

Dr Adamson's imminent departure marks the end of a significant chapter in a prolonged and bitter internal dispute which led to a vote of no confidence by the seven faculty deans a month ago following attempts to resolve its £500,000 deficit.

From the outset it was a fight between the rector and the ILEA in which it seemed only the authority could win because it held the trump card, the block grant.

It now seems certain the block grant will be agreed by ILEA's further and higher education committee. It will, however, take the form of a planning figure released once certain other proposals, recommended by the joint advisory committee are implemented.

NUU chooses nominees

The New University of Ulster has put forward the names of its two nominees to sit on the official steering group looking into the proposed merger between it and Ulster Polytechnic.

The names now go to the Northern Ireland under secretary of state for education for approval. They are Dr Peter Proggatt, vice-chancellor of Queen's University, Belfast, and Mr Richard Griffiths, former director of the Inter-University Council for Higher Education Overseas.

The nomination approved by the NUU council last week should signal a significant step forward in the difficult talks about the proposed merger. NUU's refusal to make nominations was a key sign of how much the university opposed the move.

OU to take Belgian students

The Open University is to take foreign students for the first time next year, by extending a scheme for British nationals in Brussels to include anyone who lives in Belgium and speaks English.

The decision was taken by the OU senate without any member dissenting this week. It follows pressure from workers in the European Commission who want access to OU facilities arranged for the first time last year for their British counterparts.

Only the OU's "associate student" courses are available. But Pro-Vice Chancellor Richard Holmes says he hopes full degree courses will soon be taken across the Channel too, and that the personnel department at the European Commission is keen for staff to have the chance to take degrees they need for promotion.

OU to take Belgian students

The present number of students doing five courses - including arts, social sciences and education - is likely to rise from 44 to 150, with 10 courses available. But pro-vice chancellor Richard Holmes says he expects to bring tutors out to them once or twice a year.

That arrangement is organized by the British Council, who are acting as the OU's agents. They will also arrange English language proficiency in Belgium, according to Mr Holmes. Nevertheless, he expects there to be some students from outside the Commission, as well as nationals from various EEC countries.

The Association of University Teachers at St Andrew's University has boycotted graduation ceremonies in protest at the closure of archaeology and linguistics departments, and prospective redundancy.

Deans may be given new powers

The Social Democrats intend to set up an urgent review of higher education if they come into power. Top priority would be to reform the University Grants Committee, and perhaps create a single body to control institutions on both sides of the binary line.

These plans are contained in the party's policy statement on education published last week. It was discussed at a private weekend conference when Mr Tom McNally, the party education spokesman attacked the 'conservatism' of existing education institutions.

The paper says the UGC has been put in an anomalous position which has allowed the present government to shelter behind a body that is apparently accountable to no one. The new National Advisory Body dealing with public sector institutions is being forced into a similar ambiguous role, it says.

Deans are appointed by their faculties, but the educational policy committee has not consulted staff over the proposals. "Our fear is that court will change the constitutional arrangements and connect deans more directly to court and senate rather than keep them the servants of faculties. This would completely change the role of the faculties in the university by removing their special relationship with the deans," said Dr Graves.

The move might be benign, he added, but had aroused fear by being brought up at the time of year when most staff were on holiday.

The AUT has lobbied Edinburgh's new rector, Liberal leader Mr David Steel, who will chair the court meeting.

The AUT is seeking assurances from the deans that forms staff are being asked to fill in about their CVs and teaching loads will not be used to decide on redundancies.

Edinburgh says this is its standard practice, but the collection of CVs has been informal and haphazard in the past, and information on time spent teaching has not been sought before.

Principal John Burnett has never said how many posts Edinburgh hopes to lose, but told a recent senate meeting that the university would know in January whether redundancies were necessary.

It was estimated that Edinburgh must save £1.75m, said Dr Burnett, but he stressed this was the most pessimistic view, caused by uncertainty over salary settlements, in particular with the Association for Scientific, Technical and Managerial Staffs and the AUT. It is thought the savings target may be closer to £1.25m.

But these are the countries which British Rail has cited as setting the pace in the introduction of better working practices.

The effects of the irregular hours and accumulating sleep deprivation observed in these studies included fatigue and ulcers.

And the group seems likely to disturb British Rail still further by pointing out that the European results indicate an increase in the risk of accidents from loss of vigilance caused by flexible rostering.

Flexible shifts can injure health

Railway productivity may be improved by flexible shift working, but human physiology is not, according to researchers at Bradford University.

In a broadsheet published this week, the university's working environment research group says that European studies demonstrate harmful effects of variable rosters over and above those found when train drivers work regular shifts.

The group, which draws members from the schools of industrial technology and experimental psychology, was formed to study the effects of technical change on workers' health.

The broadsheet, published by the British Society for Social Responsibility in Science, says the most powerful evidence against flexible shifts comes from France, West Germany, Holland and Sweden.

Both industrial relations and financial management have suffered and it is planned to make these senior posts permanent and advisory, which has remained vacant for some time, will be upgraded and made directly accountable to the court of governors.

In addition, the advisory committee recommended the appointment of a personnel officer.

The committee was concerned about the time and attention given by staff in the past to non-block grant activities such as the polytechnic's international services. It recommended that staff below the 50 per cent should carry out to the level of dean their teaching requirements as stipulated under their Burnham hours contract.

The final recovery plan which has been agreed aims to resolve the polytechnic's financial difficulties. It has to make savings of £319,000, amounting to a 2 per cent cut from next year's budget, with the proviso that education standards and members of staff will not be affected.

SDP proposes review of universities

The SDP would revive the national debate begun by the discussion document Higher Education into the 1990s published in 1978 when Shirley Williams was Secretary of State for Education, but abandoned because of lack of funds and the fall of the Labour Government.

Other major plans in the document are to review fees charged to overseas students with the specific aim of reducing discrimination, to increase student grants, and to separate the funding of teaching and research in universities.

The next Government would have to achieve a mixture of repair and reform, probably without putting extra resources into education, it says. The SDP estimates it can pay for all its policies, except in the 16-19-year-old area, from savings brought by falling numbers.

The SDP fully supports the proposals of the Youth Task Group of the Manpower Services Commission, and would back all the recommendations

including setting up new tertiary colleges as far as possible. It admits it cannot reverse higher education cuts suddenly, but it proposes a series of immediate repairs:

● Grants, including support for mature students, would be reviewed and linked to supplementary benefits so no student was worse off than being unemployed.

● All limits on the number of students admitted by institutions would be lifted.

● The university admissions procedures, particularly at Oxbridge, would be reviewed to counter disadvantages faced by state school pupils.

● Arrangements for extra places for those excluded from higher education because of current cuts.

● Fees paid by mature students would be made tax deductible to encourage applicants.

● Fees paid by overseas students would be put on a more rational

base pending a full review, certainly lower than present full-cost charges. Two priority areas identified at the conference were provision for nursery education and extending continuing education. Mr McNally told the conference the SDP did not want a generation to put education back in the centre of the stage.

The document, which in many areas resembles the Labour Party's recent policy statement, was produced by the party's education and training group. Key figures in it include Sir Norman Lindop, former director of Hatfield Polytechnic; Sir Peter Swinnerton-Dyer, former vice-chancellor of Cambridge; Mrs Jean Flood, principal of Newham College, Cambridge.

Foundations for the Future: An education and training policy price £1 from the SDP, 4 Cowley Street, London SW1P 4NB.

Leader back page



Medical students from St George's Hospital, Tooting, in London this week presented to the hospital a £3,000 life-saving ventilator, bought with proceeds from their rag week in March. The picture shows Miss Julie Pender, who chaired the Rag Week committee, with St George's consultant anaesthetist, Dr Paul Woodhouse.

Oxford campus for Stanford

Stanford University has finally won permission from Oxford City Council to establish an overseas student centre in High Street property leased from Magdalen College.

Under the scheme, which was initially blocked by the city's planning authorities, some 200 Stanford students would attend the centre every year. The university would lease the buildings from Magdalen and spend nearly \$2m on refurbishing. Stanford already operates an overseas centre in Cliveden and wants to move it Oxford to give students an opportunity to work in a major university city.

The Stanford programme at Cliveden is expected to begin by 1984 and will be taught by academics from both the United States and Great Britain. More than a third of the students are from other parts of their studies.

Job studies needed

More studies of how graduate careers unfold over 20 to 30 years are now needed according to a conference of sociology lecturers and careers advisers held at Warwick University last week. Sociology graduates were urged to market their skills in qualitative and quantitative research to explore their job opportunities beyond education and social work to include media, careers guidance, and personnel work. The conference, the first of its kind in sociology, was sponsored by the British Sociological Association.

Graduation boycott

The Association of University Teachers at St Andrew's University has boycotted graduation ceremonies in protest at the closure of archaeology and linguistics departments, and prospective redundancy.

Women's study

An Open University course on 'The changing experience of women and including a study of women experience of the night and day, as well as the films of Doris Day, start taking students both on campus and associate student centre next year.

The Association of University Teachers at St Andrew's University has boycotted graduation ceremonies in protest at the closure of archaeology and linguistics departments, and prospective redundancy.

OU to take Belgian students

The Open University is to take foreign students for the first time next year, by extending a scheme for British nationals in Brussels to include anyone who lives in Belgium and speaks English.

The decision was taken by the OU senate without any member dissenting this week. It follows pressure from workers in the European Commission who want access to OU facilities arranged for the first time last year for their British counterparts.

Only the OU's "associate student" courses are available. But Pro-Vice Chancellor Richard Holmes says he hopes full degree courses will soon be taken across the Channel too, and that the personnel department at the European Commission is keen for staff to have the chance to take degrees they need for promotion.

The present number of students doing five courses - including arts, social sciences and education - is likely to rise from 44 to 150, with 10 courses available. But pro-vice chancellor Richard Holmes says he expects to bring tutors out to them once or twice a year.

That arrangement is organized by the British Council, who are acting as the OU's agents. They will also arrange English language proficiency in Belgium, according to Mr Holmes. Nevertheless, he expects there to be some students from outside the Commission, as well as nationals from various EEC countries.

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BOOKS

Bluetooth's empire

Viking Age Denmark by Else Roesdahl translated by Susan Margeson and Kirsten Williams Colonnade Books: British Museum Publications, £16.95 ISBN 0 7141 8027 0

By the end of the Viking Age, Scandinavia had undergone three significant and lasting developments. These three hundred years, from the late eighth to the late eleventh century, were marked in the Viking homelands by their conversion to Christianity, by the formation of their first towns, and by the growth of royal power expressed in the formation of the three Scandinavian Kingdoms. Denmark, by virtue of its position, was often the first of these to receive the innovations that made possible such developments.

Viking Age Denmark was a larger country than it is today, with its ramparts of the great fortification near Schleswig known as the Danevirke and the river Eider in the north of modern Germany. To the east the country included the flat and fertile provinces of southern Sweden. If there is one general criticism to make of Else Roesdahl's excellent survey, it is that writing as a modern Danish archaeologist she pays too little attention to those important areas that no longer form part of the Danish realm. Hedeby, the forerunner of Schleswig, and the first planned town (founded circa 1000) became its first archiepiscopal see in 1103/4 - to give but two examples of important sites from these regions, both extensively excavated.

That is not to say, however, that Roesdahl does not make frequent references to the discoveries in these towns, for her book is remarkable

English medieval archaeologist. If only all academic translations might thus benefit from a fluency of style matched by accuracy of terminology. The editor on the other hand might have noticed the lack of specific location maps and town plans that would have assisted the English reader to orient himself rather better, although it may be churlish to complain so of a book that is otherwise well illustrated throughout. In the aftermath of a wave of general books on the Vikings, it is a pleasure to read such a valuable synthesis as *Viking Age Denmark*. One hopes that it will be followed by other similar area surveys, necessitated by the vast amount of recent work on this period. Research proceeds apace and will, as Roesdahl acknowledges, soon make parts of her book outdated, but that will not reduce its permanent scholarly value, for her text is fully supported by extensive notes and an excellent bibliography.

James Graham-Campbell
James Graham-Campbell is lecturer in medieval archaeology at University College London.

Mental constraints

The Mismeasure of Man by Stephen Jay Gould Norton, £9.95 ISBN 0 393 01489 4

Stephen Jay Gould's highly readable new book is a critique of biological determinism. Writing for a general audience, he focuses on nineteenth and twentieth-century arguments that have sought to justify social inequality in terms of heritable differences in mental ability. His method is to demystify the apparent objectivity of mathematical argument through a re-analysis of his subjects' data and an attempt to reveal their mistakes. The story opens in ante-bellum America with the dispute over the origins of human races. Were they

argues, are two: the interpretation of test results in terms of a reified party of mind, "intelligence", and the insistence that differences in test score are largely hereditary. In the first of two long chapters Gould examines the American school via the work of Goddard, Terman, Yerkes, and Brigham. Some of Terman's data-fiddling and Yerkes' desperate attempts to extract meaning from the hopelessly confused results of testing nearly two million American soldiers in World War One are hilarious, until one remembers the subsequent social impact such arguments had. Just why Gould refers to hereditary testing as "an American invention" is not clear; here again one misses a fuller discussion of Galton and his circle. Similarly, though he is forced to refer to eugenics in connection with nearly every IQ tester he discusses, Gould declines to examine the eugenics movement systematically, on the rather puzzling grounds that most of eugenics "did not seek to measure intelligence as a property of the brain".

The last substantive chapter constitutes the book's most important contribution to contemporary debate. In order to develop a critique of the work of Burt, Spearman and Thurstone, Gould spends 15 pages carefully and lucidly explaining the method of factor analysis which, as Gould rightly emphasizes, is so central to the psychometric paradigm and yet rarely dealt with at any length in recent critiques of hereditarianism. Appropriately Gould pursues the fallacy of reification via factor analysis right into the most recent defence of IQ testing by Arthur Jensen.

Although Gould regards the book as an exercise in debunking, it is clear from the introduction and occasionally from the analyses that his aims do not stop there. As befits an academic who teaches not only biology and geology but history of science, his stated concerns are also broadly explanatory: ... I do not intend to contrast evil determinists who stray from the path of scientific objectivity with enlightened anti-determinists who approach data with an open mind and therefore see truth. Rather, I criticise the myth that science itself is an objective enter-



Nineteenth-century wooden carving of kneeling female figure with child and offering bowl, by the carver Maku, from the town of Erin in Yorubaland in south-western Nigeria. Illustration taken from Yoruba: sculpture of West Africa, text by William Fagg, descriptive catalogue by John Pemberton III, edited by Bryce Holcombe, and published by Collins at £18.

Styles of birth

Ethnography of Fertility and Birth edited by Carol P. MacCormack Academic Press, £4.00 ISBN 0 12 465550 4

In Britain and other industrialized countries, there has for some time been a preoccupation with what is delightfully, but vaguely, referred to as "natural childbirth". But what is a cultural construct, and thus one in which there is about as much inter-cultural consistency as there is between two local cultures themselves.

What applies to childbirth applies to reproductive behaviour and beliefs in general. Tamil-speaking Sri Lanka, for example, believes that the point of menstruation is to drain away women's strength so the men remain socially dominant. The Aowin people of South-West Ghana perceive the infertile woman as polluted and dangerous. In Euro-American culture the predominant view is of home birth as dangerous. And so on. The conclusion has to be that the limits of "natural" reproduction are set, not by biology, but by human inventiveness.

This collection of essays edited by Carol P. MacCormack of the London School of Hygiene and Tropical Medicine is a significant addition to the literature substantiating this thesis. The book contains essays on a variety of cultures, including Sierra Leone, Sri Lanka, the Yoruba of Nigeria, Guatemala, and Aïdaïa, a quite traditional ethnography. Certain policy-relevant conclusions are drawn, for example, that falling material and infant mortality may have more to do with living standards than with the hospitalization of birth, and that what is needed for maternal and child health in all societies "are reasonable procedures that reduce infection, assure an optimal diet based upon available local foods, and a referral system for serious cases of obstructed labour".

Jonathan Harwood
Jonathan Harwood is lecturer in the department of liberal studies in science at the University of Manchester.

Most important are the indigenous practices associated with the management of reproduction. These may not be the regions of western science, but what is so scientific about western medicine anyway? The notion ascribed to it by the Ego of New Guinea that sexual intercourse during lactation will effectively kill the infant is as good a means of birth control as the contraceptive pill (without the pill's hazardous side-effects). The "Sandé Society", a women's organization in Sierra Leone concerned with the maintenance of health and fertility, provides an excellent framework for woman-controlled, locally-based health care that "reaches" women and children to a far greater extent than any western medical institution.

It is a pity, therefore, that the weakest contribution to this collection is the last, on "Childbirth in a scientific and industrial society". David, Jones and Chris Douglass, who write with very little reference to the quite substantial literature on the sociology of reproduction that has emerged in recent years. Moreover, rather than analysing the so-called "scientific" medical model in the same way as those pertaining to so-called "folk" medicine" described in the rest of the book, they uncompromisingly incorporate key elements of the medical model into their interpretation; for instance, when Kepler, for example, claimed that regular shapes on the moon are "artificial" and produced by some "architectural mind". During the century, particularly after the various experiments on "the spring of air", the problem of whether there was an adequate atmosphere of air on the moon for the survival of life thrust itself upon speculators.

Ann Oakley
Ann Oakley is a Wellcome Research Fellow at the National Perinatal Epidemiology Unit, Oxford.

BOOKS

Worlds without end

Plurality of Worlds: the extraterrestrial life debate from Democritus to Kant by Steven J. Dick Cambridge University Press, £19.00 ISBN 0 521 24308 8

The possibility of extraterrestrial life, though today is a commonplace in science-fiction literature, has a long and venerable history, as Dr Dick's study engagingly shows. It is known to intellectual historians through works such as Fontenelle's *Conversations on the Plurality of Worlds*, first published in 1686 and widely read thereafter in several different languages. But the general history of the debate, which has roots in antiquity, has never been written, and, as the author of this study points out, has generally been passed over by scholars as scarcely worthy of serious attention. Yet, it is clear that the question exercised the minds of some of the best modern philosophers and scientists including Bruno, Kepler, Descartes, Huygens and Kant.

The problem began with the speculations of the ancient atomists. Epicurus held there to be "infinite worlds, both like and unlike this world of ours", while Aristotle argued bluntly - and with better empirical evidence - that our world is unique. During the Middle Ages the latter view dominated, though from time to time the more unorthodox view reared its head before being rejected.

With the recovery of a wider range of classical sources in the Renaissance, especially in the works of Ptolemy and Lucretius, speculations on extraterrestrial worlds and the life there increased. Figures such as Nicholas of Cusa in the fifteenth century and, in a far bolder and more dogmatic way, Giordano Bruno in the sixteenth century speculated about an infinitely extending universe with ample works to fill it.

The final year of the sixteenth century marked Bruno's end, but also marked the beginnings of a more "scientific" approach to the question. This is not to say that theological and metaphysical speculation ended simply with the coming of the scientific revolution. For problems of plenitude and God's omnipotence continued to be central throughout the century. Yet, David, Jones and Chris Douglass, who write with very little reference to the quite substantial literature on the sociology of reproduction that has emerged in recent years. Moreover, rather than analysing the so-called "scientific" medical model in the same way as those pertaining to so-called "folk" medicine" described in the rest of the book, they uncompromisingly incorporate key elements of the medical model into their interpretation; for instance, when Kepler, for example, claimed that regular shapes on the moon are "artificial" and produced by some "architectural mind".

Nonetheless, in addition to the scholarly speculative literature written by the learned, usually in Latin, and begun to be more popular and entertaining genres. Donne wrote about it, Ben Jonson produced a masque, *News from a New World Discovered in the Moon* (1620), and later, Haydn, using a libretto of Goldoni, composed the charming *The World in the Moon* (1777) on a theme and with presuppositions that are much out of date. As the negative evidence of the telescope and other scientific findings became more compelling, attention began to focus upon heavenly bodies other than the moon. Such specula-

tion was already present in Epicurus and the other ancient Greeks, but with the coming of new visual evidence concerning the moon from Galileo onwards, attention was focused there until it was clear that life on the moon became all but an untenable hypothesis.

During the eighteenth century, after some intense debate on lunar life which even became the subject of university theses, the more general question which Huygens and Fontenelle had brought to the fore in popular literature, for Haydn was for many others of little intellectual sophistication down to the day of the first lunar exploration, the theme of "man on the moon" held appeal.

In a more serious vein Kant, basing himself upon Newton's universe and upon metaphysical and natural theological speculations concerning plenitude, could conclude that there existed a universe "animated with worlds without number and without end". Thus in his pre-critical *Universal Natural History and Theory of the Heavens* (1755) he went back to the position of Epicurus and Bruno. For Kant, in a way radically different from many an orthodox theological commentator, an infinitude of worlds was a natural result of God's omnipotence rather than a limitation upon it. Kant's world - in the modern philosophical and logical sense - was not thought to be because of his religious beliefs and so contrary to the secular character of the college.

Logic and probability begin to enter the letters and at the same time Boole seeks support for his application in Ireland. Cork at first seems "very comfortable". At present everything seems to promise harmony. I have met with nothing like intolerance among the Roman Catholics with whom I have conversed." But within a year Boole is asking about any position in England which might suit him: "I am not terrified by the storm of religious bigotry ... But I cannot help entertaining a feeling ... that recent events in this college justify a foundation of a way of mutual trust and confidence among

Charles Schmitt
Charles Schmitt is lecturer at the Warwick University.

History's last seal

The Boole-De Morgan Correspondence, 1842-1864 edited by G. C. Smith Oxford University Press, £17.50 ISBN 0 19 853183 4

Few would place De Morgan in the first rank among the English nineteenth-century mathematicians and Boole, though overspread by Russell, is really a lesser figure who happened on one result of immense originality and in a wide field of contributions. But there are a number of reasons why this does nothing to make the present book any less valuable or delightful.

One reason is the actual personalities of the two participants in the correspondence, for both are delightful people, even if one can detect a slight aspect of difficulty in their relations with other colleagues. Another is that there are about 90 letters surviving, mostly in University College London. Moreover, these letters mix their mathematical queries with some interesting side-lights on Victorian London and Ireland.

The two men started from very different positions. Boole, born in 1815 in Lincoln, was the son of a cobbler; largely a self-taught student, he studied many languages and began to publish on calculus when he was 26, his great paper on operations and methods (which) earned him a Royal Society medal) was three years later. By the time he was 35 he had published his *Logic* and been appointed to the chair in Cork, where he was to marry and to die until his early death in 1864. De Morgan, on the other hand, went to Trinity in 1823, where he was

BOOKS

X-ray diffraction

Diffraction for Materials Scientists by Jerold H. Schultz Prentice-Hall, £26.20 ISBN 0 13 211920 X

Although Jerold Schultz set out with the commendable aim of demonstrating the "universality and utility of the scattering method in solving structural problems in materials science", he has written just another book on X-ray diffraction. Most books on this subject are dull and this is no exception. Would that prospective authors were given Sir Lawrence Bragg's expertly written and readable book, *The Development of X-Ray Analysis* for guidance before setting pen to paper.

Readers might confidently have expected a distillation of those methods such as X-ray, electron, and neutron-diffraction, together with transmission electron microscopy, which some of the more interesting structural problems have been tackled. They might also have expected to see illustrations by bright-field, dark-field, and high-resolution lattice-fringe images, but, disappointingly, there is but one solitary electron micrograph. Although the author does provide several examples of X-ray topography, a subject with which he is well acquainted, his demonstration of dislocations in strained crystals and hence the manifestation of dynamical scattering is inadequate.

Another salient feature is the deformation of classical concepts of crystallography, such as symmetry and space groups, until chapter five, where they are introduced merely as adjuncts to structure analysis. Although this is said to allow "easier concentration on diffraction concepts in the earlier chapters", the choice of concept is sometimes strange. For example, because the first chapter concentrates on scattering patterns, namely atomic scattering factors, and the second chapter deals with what specialized problems are what specialized problems are what specialized problems are what specialized problems are

Probability now begins to play a larger role and it is this which really leads Boole to his *Laws of Thought*. At this time Boole thought of settling for a chair in Melbourne, but this is put on one side by his decision to marry. Here the letters are at their warmest; and De Morgan permits himself a reference to the derivation of "husband" and "wife". "They are from the Sanscrit," originally means a demanding of money - and the deceives himself means a person who is not in him if he and the truth is by any possible method he will avow by forking out."

Logic and probability now form a large part of the correspondence, and Boole is still concerned with the theory of differential equations. The two valued their letters highly; in 1862 Boole says "There is absolutely no person in this country who can speak my wife with whom I ever speak on subjects like this. I feel this as one of the many drawbacks in living in this country and as not the least of them." But from UCL De Morgan replies "I have not one person to whom I can speak on logic - nor, except possibly to another without from one month to another without any conversation of my studies with a person whom I cannot claim to teach. And you might live in London and do the same; therefore I was against the notion that you are a mental Robinson Crusoe."

C. W. Kilminster
C. W. Kilminster is professor of mathematics at King's College, London.

A second edition of G. F. Roalson's *Green's Functions* has been published by Cambridge University Press at £20 and £7.95. Two entirely new chapters have been added.

BOOKS

Worlds without end

one of the Cambridge Analytical Society, and was appointed to the chair at UCL in 1828, when he was 22. The early letters, when Boole was still a teacher but De Morgan had been in his chair for 14 years, relate to differential and difference equations; Boole is already preparing his paper on operational methods, and among other advice which De Morgan is able to give him is that it is too long for the *Phil Mag*, and probably also for Gregory's Cambridge Journal ("I am afraid Gregory is in no state to attend to or decide upon it. Whether the RS would print it or not is a question. I think they ought to do so, but ... there is the nuisance of keeping a copy ... as they are very hard on the metalish about what they call their archives and will not return a paper even when they do not print it"). At a more practical level, however, De Morgan suggests D as a notation for differentiation to save on printing costs.

All in all, it is satisfying to read at the end of this book of De Morgan's second son being one of the founders of a society at UCL which was to develop into the London Mathematical Society with De Morgan as first president (just before his resignation from his chair in protest at the college's refusal to appoint a well-known utilitarian to the chair of mental philosophy and logic; a refusal thought to be because of his religious beliefs and so contrary to the secular character of the college).

Logic and probability begin to enter the letters and at the same time Boole seeks support for his application in Ireland. Cork at first seems "very comfortable". At present everything seems to promise harmony. I have met with nothing like intolerance among the Roman Catholics with whom I have conversed." But within a year Boole is asking about any position in England which might suit him: "I am not terrified by the storm of religious bigotry ... But I cannot help entertaining a feeling ... that recent events in this college justify a foundation of a way of mutual trust and confidence among

An updated and expanded third edition of *A Biographical Dictionary of Scientists*, edited by Trevor K. Williams, has been published by Adam & Charles Black at £15. Some 1100 brief biographies of historically eminent scientists from all countries are arranged in alphabetical order, many entries providing bibliographical references for further study. "Unfamiliar technical terms have been explained as far as possible to aid the general reader, and the dictionary ranges widely over science, medicine, technology, and mathematics. Two appendices list anniversaries and 700 other notable scientists.

An Everyman paperback edition of T. R. Malthus's *An Essay on the Principle of Population*, with an introduction by T. H. Hollingsworth, has been published by Dent at £3.95.

Education and Power

MICHAEL WAPPLE

Professor of Curriculum Studies, University of Warwick - Medicine

Michael Wappler's first book, *Ideology and the Curriculum*, was widely acclaimed as the most important education book published in the 1970's. His new study on education's relationship to political and cultural power is certain to be widely read.

0 7100 09771 £10.85 J. July

Routledge & Kegan Paul
39 Store Street, London WC1

RKP

NOTICE BOARD

Noticeboard is compiled by Patricia Santinelli and Mita Goldie

Appointments

Universities
Bath
Lecturers: R. E. Dorey (engineering); Dr M. S. Silver (management).

Birmingham
Registrar: Mrs Anne Hutton

Essex
Lecturers: Dr J. L. Frank (economics); M. C. Heason and I. A. Sparks (computer science).
Deans: Professor I. Proulman (mathematical studies); Professor T. R. O. Gray (science and engineering).
Deans: Dr H. Newby (comparative studies); Professor F. Frank (social studies); Professor A. D. Yates (law).

Hull
Reader: Confirmation of the title: Dr R. N. Berki (politics); Dr M. C. O'Brien (mathematical statistics); Dr H. A. Lloyd (history).

Leeds
Reader: Confirmation of the title: Dr H. B. Clotzschick (classics); Dr C. E. Chull (history); Dr D. Greig (physics); Dr C. K. Andersen and Dr P. G. F. Hillman (pathology).

Manchester
Principals: Professor K. M. Entwistle.
Title of professor emeritus has been conferred upon the following: Professor D. C. Austin (government); Professor K. W. Bagnall (inorganic chemistry); Professor W. C. Brice (South-West Asian Cultural Geography); Professor Ronald Cooper (electrical engineering); Professor C. R. Hingworth (applied mathematics); Professor D. S. Jackson (medical biochemistry); Professor R. E. Keller (Henry Simon professor of German literature); Professor J. Parry Lewis (economics of regions and towns); Professor T. O. Ling (comparative religion); Professor Frank Musgrave (Sarah Hildart professor of education); Professor A. E. Musson (economic history); Professor G. S. Nixon (conservative dentistry); Professor Horbert Ramsden (Spanish language and literature); Professor William Ralston (French language and medieval French literature); Professor P. W. Rowe (soil mechanics); Professor Harold Schindler (lecturer in pharmacology, Materia Medica and therapeutics); Professor H. A. Skinner (physical chemistry); Professor F. E. Sutcliffe (industrial French literature); Professor Stanley Thomas (Barclay professor of physiology); Professor P. M. Worsley (sociology).
Lecturers: John Wagsall (oncology); E. W. Benbow; A. H. Freeman; J. D. Kutherford (pathology).

Honorary degrees

Bristol
The following have been awarded honorary degrees:
Doris Lord Flower, rector of Imperial College, London.
DSE (Eng.): Viscount Caldecote of Bristol, chairman of the London on July 28 at 6.30pm in the lecture theatre. The exhibition runs from July 23 until October 17.



George Ueill, winner of the best supporting actor award in *Lope de Vega's* comedy *The Dog in the Manger* which is to transfer to the National Student Drama Festival.

Open University programmes July 17 to July 23

- Saturday July 17**
- 8.30 The Open University Development, Training and Progress (230) (pro 1).
 - 9.15 Core Skills: Mathematics Two (230) (pro 1).
 - 9.45 History of the English Language (230) (pro 1).
 - 10.15 The Open University: A Time of Change (230) (pro 1).
 - 10.45 The Open University: A Time of Change (230) (pro 1).
 - 11.15 The Open University: A Time of Change (230) (pro 1).
 - 11.45 The Open University: A Time of Change (230) (pro 1).
 - 12.15 The Open University: A Time of Change (230) (pro 1).
- Sunday July 18**
- 8.30 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 9.00 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 9.30 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 10.00 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 10.30 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 11.00 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 11.30 English urban history 1800-1870: Bartholomew (230) (pro 1).
 - 12.00 English urban history 1800-1870: Bartholomew (230) (pro 1).
- Monday July 19**
- 8.30 The development of instruments and their... (230) (pro 1).
 - 9.00 The development of instruments and their... (230) (pro 1).
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 - 10.00 The development of instruments and their... (230) (pro 1).
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 - 11.30 The development of instruments and their... (230) (pro 1).
 - 12.00 The development of instruments and their... (230) (pro 1).
- Tuesday July 20**
- 8.30 The development of instruments and their... (230) (pro 1).
 - 9.00 The development of instruments and their... (230) (pro 1).
 - 9.30 The development of instruments and their... (230) (pro 1).
 - 10.00 The development of instruments and their... (230) (pro 1).
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 - 11.00 The development of instruments and their... (230) (pro 1).
 - 11.30 The development of instruments and their... (230) (pro 1).
 - 12.00 The development of instruments and their... (230) (pro 1).
- Wednesday July 21**
- 8.30 The development of instruments and their... (230) (pro 1).
 - 9.00 The development of instruments and their... (230) (pro 1).
 - 9.30 The development of instruments and their... (230) (pro 1).
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 - 12.00 The development of instruments and their... (230) (pro 1).
- Thursday July 22**
- 8.30 The development of instruments and their... (230) (pro 1).
 - 9.00 The development of instruments and their... (230) (pro 1).
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- Friday July 23**
- 8.30 The development of instruments and their... (230) (pro 1).
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 - 11.30 The development of instruments and their... (230) (pro 1).
 - 12.00 The development of instruments and their... (230) (pro 1).

Forthcoming Events

"The Decline of Shipbuilding on the Thames", a special lecture is to be delivered by Professor Sidney Pollard, professor of Economic History at the University of Bielefeld in association with the Worshipful Company of Shipwrights exhibition "200 Years of Shipping Along the Thames" at the Museum of London on July 28 at 6.30pm in the lecture theatre. The exhibition runs from July 23 until October 17.

The American experience of community education is to be discussed at a working residential conference to be held at the Hotel Thayer, New York State, USA from August 17-25. The conference will examine the USA experience in community education and relate it to the UK. UK contributors include Mr Christopher Price MP, Mr Gerald Fowler, director of the North East London Polytechnic; Mr Malcolm Lee, president of the National Association of Teachers in Further and Higher Education; Fee: £50. Details from Mr C. Milner, secretary, NELP, Romford Road, London E15 4LZ.

"Better Journals for the Library Profession" a seminar to examine editorial practices from conception to the printed page is to be held from August 30-31 at McGill University, Montreal, Canada. The seminar is organized by the International Federation of Library Associations and Institutions: Round Table of Editors of Library Journals. Among the topics to be discussed are: the purpose and goal of professional journals; the formulation of editorial policy; how to find and reject contributors; making up, printing and other means of reproduction. Details from Mr D. Birchard, PO Box 9 North Walshby, Victoria 3104, Australia.

The University of Stirling is to offer a course on "Tracing Your Ancestors" from August 29 to September 4. Dr M. Lloyd of the university's department of education will offer four sessions on methods of working from home, scrutinizing records at New Register House, the Scottish Record Office in Edinburgh and Public Record Office in London and utilizing library and folk museums. Intending participants are asked to prepare by collecting family photographs, birth, marriage and death certificates and to interview relatives and friends about the extent of their family. Details from Dr J. M. Lloyd, Stirling University.

The Standing Conference on Educational Development Services in Polytechnics and the Further Education Unit are holding a joint conference on implementing the DES Professional and Commercial Updating Scheme (CKU) in October 1982. The conference will discuss the resources and staff development implications for polytechnics, at Wolverhampton Polytechnic on November 18-19. The conference is calling for case studies of CKU in polytechnics and developments in polytechnic education. For information, contact the Further Education Unit, Wolverhampton Polytechnic, Castle View, Dudley, West Midlands, DY1 3HR.

Recent publications

Copies of Higher Education: Finding Your Way by David Dixon, published last year by the Department of Education and Science are still available. The booklet outlines single day courses available and the different types of institutions where they can be taken. There are sections on how to apply for a course and emergency procedures if exam results are disappointing. HMSO, 50p.

Tutoring: the guidance and counselling role of the tutor in vocational preparation by John C. Miller of the National Institute for Careers Education and Counselling is the result of work commissioned by the Further Education Unit in support of the curriculum themes suggested as essential in vocational preparation. The manual is aimed at staff developers as well as at counsellors and subject tutors. Available from the Further Education Unit, Elizabeth House, York Road, London SE1.

Stockholm Plus Ten - Promises, Prayers? The Decade since the 1972 UN Environment Conference by Robin Clarke and Lloyd Timberlake looks at how many of the 109 recommendations adopted by 113 nations at the conference have been implemented and what progress there has been on 12 key issues such as acid rain and carbon dioxide, deforestation and oil and sea and heavy metals and DDT. (Available from Batsford, 10 Percy Street, London W1P 0QR, £2.50).

Resources for Multicultural Education: an introduction by Gillian Klein is a 64-page teacher guide to the range of available resources relevant to multicultural education. It suggests some curriculum materials, and also offers ideas of organization and research projects appropriate to multicultural education and documents some local authority support services, published for the Schools Council by Longman Resources Unit, 33-35 Tanner Row, York, £1.95.

Last year the Social Research Association made a vital contribution to the debate surrounding the protection of individual's privacy in video data held in computer banks. New conference proceedings are available in *Data Protection and Privacy* edited by Colin D. Raab, senior lecturer at Edinburgh University. The conference covered crucial issues of heavy usage in the public in the video storage and use of information for advertising, and also the implications of the video storage of census data and medical records. (Copy of the report from Elizabeth Worth, 3RA Publications, 1-2 Claxton Lane, London SW1, £4.95 p.p.)

CLASSIFIED ADVERTISEMENTS

The Times Higher Education Supplement

To place advertisements write to or telephone:

The Advertisement Manager,
The Times Higher Education Supplement,
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Rates:	Copy deadlines:
Classified Display - £9.50 psc	Classified Display: Friday in the week prior to publication
Min. size: 9cm x 1 col @ £86.50	Classified Linage: Monday 10.00 am in the week of publication
Classified Linage - £1.85 per line	
Minimum 3 lines @ £5.55	
Box number - £2.00	

Appointments

Universities
Fellowships
Research and Studentships
Polytechnics
Colleges of Higher Education
Colleges with Teacher Education
Colleges and Institutes of Technology

Technical Colleges
Colleges of Further Education
Colleges and Departments of Art Administration
Overseas
Adult Education
Librarians
General Vacancies
Industry and Commerce

Other classifications

Exhibitions
Awards
Conferences and Seminars
Courses

Personal
For Sale and Wanted
Holidays and Accommodation

Universities



Founded as Ireland's first technological university, The NIHE, Limerick, Ireland has gained widespread recognition for its major contribution to the recent rapid expansion of high technology manufacturing industry. Construction has now commenced on a major extension which will double the size of the 3,000 student residence campus and will result in an immediate vacancy in the College of Engineering and Science for:

INDUSTRIAL CHEMISTRY ASSISTANT LECTURER

Candidates should have a relevant post graduate degree with a proven ability to use advanced research methods and to supervise research students in the field of industrial chemistry. Research and teaching experience in one of the following areas is preferred:

- A) CHEMICAL ENGINEERING - MASS TRANSFER OR PROCESS CONTROL OR
- B) ORGANIC CHEMISTRY - FINE CHEMICALS PROCESSING OR MICRO-BIOLOGICAL CHEMICALS PRODUCTION

Candidates must also demonstrate desire and aptitude to teach at both graduate and post graduate levels, to liaise with industry, and to initiate research or assist with existing research programmes.

SALARY:
ASSISTANT LECTURER - IRE2,206 - IRE21,387 p.a.

Application material available from the Personnel Office, The National Institute for Higher Education, Limerick, Ireland. Form should be completed and returned by Friday, 6th August, 1982.

BIRMINGHAM UNIVERSITY OF ASTON DEPARTMENT OF ELECTRONICS

LECTURER IN DIGITAL ELECTRONICS
Applications are invited for a post of Lecturer (Grade 6) in the Department of Electronics. The person appointed will be expected to teach a variety of courses in the field of digital electronics and to supervise research students. The person appointed should have an honours degree in electronics and a research degree in a relevant field. The person appointed should have an honours degree in electronics and a research degree in a relevant field. The person appointed should have an honours degree in electronics and a research degree in a relevant field.

ABERYSTWYTH UNIVERSITY OF WALES

TUTORSHIP IN LAW
Applications are invited for the above post and suitable candidates should be appointed to the above post on or before 30th September 1982. The person appointed will be expected to teach a variety of courses in the field of law and to supervise research students. The person appointed should have an honours degree in law and a research degree in a relevant field. The person appointed should have an honours degree in law and a research degree in a relevant field.

THE STATE UNIVERSITY OF NEW YORK COLLEGE AT NEW PALTZ DIGITAL ELECTRONICS COMPUTER HARDWARE COMPUTER SCIENCE

A tenure track position exists as from January 1983 (with a deferral of one semester being considered in the case of highly qualified applicants) for a person capable of teaching Digital Electronics and Computer Hardware or Computer Science at the undergraduate and graduate levels. The rank is open and the salary is competitive. Applicants must have or be about to complete a Ph.D. or equivalent degree in Physics, Computer Science, Electrical Engineering, or Mathematics. Persons with university teaching experience are encouraged to apply.

Professor Richard C. Veight, Chairman
Department of Physics
State University of New York
College at New Paltz
1258
Materials must be submitted by:

UNIVERSITY OF STRATHCLYDE PROFESSOR OF ELECTRONICS

The University will shortly be making a further professorial appointment in the Department of Electronic and Electrical Engineering. The principal activities of the Department are in the general field of electronics which includes digital systems, appropriate areas of optoelectronics and the applications of micro-technology and robotics.

THE OPEN UNIVERSITY FACULTY OF MATHEMATICS

LECTURER IN MATHEMATICS EDUCATION
Applications are invited for the post of Lecturer in Mathematics Education. The person appointed will be expected to teach a variety of courses in the field of mathematics education and to supervise research students. The person appointed should have an honours degree in mathematics and a research degree in a relevant field. The person appointed should have an honours degree in mathematics and a research degree in a relevant field.

THE OPEN UNIVERSITY FACULTY OF SCIENCE

TEMPORARY LECTURERS IN MATHEMATICS AND PHYSICS
Applications are invited for the post of Temporary Lecturer in Mathematics and Physics. The person appointed will be expected to teach a variety of courses in the field of mathematics and physics and to supervise research students. The person appointed should have an honours degree in mathematics and physics and a research degree in a relevant field. The person appointed should have an honours degree in mathematics and physics and a research degree in a relevant field.

THE OPEN UNIVERSITY FACULTY OF SCIENCE

TEMPORARY LECTURERS IN MATHEMATICS AND PHYSICS
Applications are invited for the post of Temporary Lecturer in Mathematics and Physics. The person appointed will be expected to teach a variety of courses in the field of mathematics and physics and to supervise research students. The person appointed should have an honours degree in mathematics and physics and a research degree in a relevant field. The person appointed should have an honours degree in mathematics and physics and a research degree in a relevant field.

NIHE NATIONAL INSTITUTE FOR HIGHER EDUCATION DUBLIN

Head of Mechanical Engineering

This is a professional-equivalent appointment. The Institute currently offers a range of undergraduate programmes in Science, Business, Communications, Languages and Electronic Engineering. A 2,000 place Science and Engineering building is being planned currently. Mechanical Engineering and related disciplines will be an important component in that development. The successful candidate will have a major role to play in the associated academic and physical planning and development, including course development and research. Candidates should be well qualified academically; they should have substantial research interests and should also have had industrial, business, academic or research experience. The Governing Body of the Institute may award the title of Professor to an appropriate appointee. Salary Scale: IRE27,700 - IRE21,833. Application forms and further details are available from: The Personnel Office, National Institute for Higher Education, Dublin 15. Telephone: 01 266 9177. Candidates who are not in possession of a degree should send their CVs to the Personnel Office, NIHE, Dublin 15. Candidates who have applied previously will be considered automatically. Closing date for receipt of applications: 31st July 1982.

LEICESTER UNIVERSITY OF MEDICINE FACULTY OF MEDICINE DEPARTMENT OF PHARMACOLOGY

SENIOR LECTURER IN PHARMACOLOGY
Applications are invited for a new post of Senior Lecturer in Pharmacology. The person appointed will be expected to teach a variety of courses in the field of pharmacology and to supervise research students. The person appointed should have an honours degree in pharmacology and a research degree in a relevant field. The person appointed should have an honours degree in pharmacology and a research degree in a relevant field.

LEICESTER UNIVERSITY OF MEDICINE FACULTY OF MEDICINE DEPARTMENT OF PHARMACOLOGY

SENIOR LECTURER IN PHARMACOLOGY
Applications are invited for a new post of Senior Lecturer in Pharmacology. The person appointed will be expected to teach a variety of courses in the field of pharmacology and to supervise research students. The person appointed should have an honours degree in pharmacology and a research degree in a relevant field. The person appointed should have an honours degree in pharmacology and a research degree in a relevant field.

NEW ZEALAND UNIVERSITY OF AUCKLAND FACULTY OF EDUCATION DEPARTMENT OF ACCOUNTANCY

SENIOR LECTURERS OR ASSISTANT PROFESSORS IN ACCOUNTANCY
Applications are invited for three positions of Senior Lecturer or Assistant Professor in Accountancy. The person appointed will be expected to teach a variety of courses in the field of accountancy and to supervise research students. The person appointed should have an honours degree in accountancy and a research degree in a relevant field. The person appointed should have an honours degree in accountancy and a research degree in a relevant field.

NEW ZEALAND UNIVERSITY OF AUCKLAND FACULTY OF EDUCATION DEPARTMENT OF ACCOUNTANCY

SENIOR LECTURERS OR ASSISTANT PROFESSORS IN ACCOUNTANCY
Applications are invited for three positions of Senior Lecturer or Assistant Professor in Accountancy. The person appointed will be expected to teach a variety of courses in the field of accountancy and to supervise research students. The person appointed should have an honours degree in accountancy and a research degree in a relevant field. The person appointed should have an honours degree in accountancy and a research degree in a relevant field.

Universities continued

JOHANNESBURG UNIVERSITY OF THE WITWATERSRAND GRADUATE SCHOOL OF ADMINISTRATION

Applications are invited from persons suitably qualified for the post of Lecturer in the Department of Social Anthropology, regardless of sex, race, or colour, to the following post: CHAIR IN BUSINESS ADMINISTRATION WITH RESEARCH IN HUMAN RESOURCES MANAGEMENT

HONG KONG UNIVERSITY OF ASSISTANT SECRETARY (FINANCE)

Applications are invited for the post of Assistant Secretary (Finance) in the Finance Office from suitably qualified persons who are interested in and who are members of a recognised accountancy or equivalent body or who possess a university degree in an appropriate field.

TRINIDAD UNIVERSITY OF THE WEST INDIES

Applications are invited from suitably qualified candidates for the post of Lecturer in the Department of History. Applicants should be qualified in the field of history and have a minimum of a first class honours degree in the subject.

Applications are invited for the following posts for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Reader AS7,071; Senior Lecturer AS28,127-AS32,782; Lecturer AS20,963-AS27,539; Senior Tutor AS18,968-AS20,969; Tutor AS14,900-AS17,542.

AUSTRALIA

Applications are invited for the following posts for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Reader AS7,071; Senior Lecturer AS28,127-AS32,782; Lecturer AS20,963-AS27,539; Senior Tutor AS18,968-AS20,969; Tutor AS14,900-AS17,542.

discipline, or a good qualification in another discipline combined with a substantial interest in law-related matters. Relevant professional experience and tertiary teaching experience will also be taken into account and the successful applicant will be required to obtain from the Personnel Manager of the University.

The University of Sydney Lecturer in Social Anthropology. Applications are invited for a Lectureship in Pacific Asia Studies. Applicants should have knowledge of traditional sociocultural systems and also of issues of decolonisation and national development.

Monash University, Melbourne FIXED-TERM LECTURER IN SPECIAL EDUCATION Faculty of Education. An appointment of 3 years with possible extension to 5 years to teach and supervise research in one or more of the following areas: Learning disabilities and learning difficulties, motor development and physical disabilities.

The Australian National University LECTURER DEPARTMENT OF POLITICAL SCIENCE Faculty of Arts. Applications are invited from suitably qualified persons for this position which the University hopes to fill, subject to funds being available.

James Cook University of North Queensland LECTURER IN CIVIL ENGINEERING (WIND ENGINEERING) The appointment will be for a limited term until 31 December 1984. The appointee will be required to assist in activities of the Department of Civil and Systems Engineering, which include directing and undertaking research on wind effects on buildings in the University's boundary layer wind tunnel and teaching structural engineering and related subjects.

University of Queensland READER/SENIOR LECTURER/LECTURER IN DEPARTMENT OF COMMERCE Applicants should have a higher degree in finance, appropriate teaching and professional experience, and be interested in teaching and conducting research in finance. Applicants for a position of Reader/Senior Lecturer should hold a Ph.D. and be capable of encouraging and directing higher degree research in finance.

The University of Adelaide LECTURER/SENIOR LECTURER IN CONSERVATIVE TECHNOLOGY Primary responsibility will be to take responsibility for the placement and delivery of the component of the Department's undergraduate courses from first-year to postgraduate level. An ability to contribute to research in the field of linguistics as well would be an advantage.

PAPUA NEW GUINEA THE UNIVERSITY OF TECHNOLOGY DEPARTMENT OF SURVEYING LECTURER AND SENIOR LECTURER (2 Posts) The Department of Surveying offers undergraduate and postgraduate courses in surveying, cartography and photogrammetry to diploma level in surveying.

PAPUA NEW GUINEA THE UNIVERSITY OF TECHNOLOGY DEPARTMENT OF SURVEYING LECTURER AND SENIOR LECTURER (2 Posts) The Department of Surveying offers undergraduate and postgraduate courses in surveying, cartography and photogrammetry to diploma level in surveying.

Universities continued

NEW ZEALAND UNIVERSITY OF WAIKATO JUNIOR LECTURER/LECTURER IN MANAGEMENT STUDIES

The Department of Management Studies has developed a strong multidisciplinary approach to teaching and research in the area of management. The approach is heavily interdisciplinary with a distinctive four year degree programme for the Bachelor of Management Studies.

Marketing - Applicants should have a broad interest in all aspects of marketing. The successful applicant will be a political scientist with specialist teaching and research interests in one, or preferably more, of the following areas: Japanese politics, Soviet politics, comparative politics and modern political theory.

Management Systems - Applicants should have a strong background in the area of Management Information Systems, or a related area. The successful applicant will be responsible for the application of formal financial planning models and the use of operations research and of statistical packages related to managerial situations.

TRINIDAD UNIVERSITY OF THE WEST INDIES Applications are invited from suitably qualified candidates for the post of LECTURER IN ORGANISATIONAL BEHAVIOUR AND MANAGEMENT. Applicants should have a good knowledge of the field of Organizational Behaviour and Management, and a degree in Social Psychology, or a related area.

TRINIDAD UNIVERSITY OF THE WEST INDIES Applications are invited from suitably qualified candidates for the post of LECTURER IN ORGANISATIONAL BEHAVIOUR AND MANAGEMENT. Applicants should have a good knowledge of the field of Organizational Behaviour and Management, and a degree in Social Psychology, or a related area.

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SWAZILAND THE UNIVERSITY COLLEGE OF

Applications are invited for the post of LECTURER IN CHEMISTRY. The successful applicant will be expected to teach and conduct research in Physical Chemistry and Organic Chemistry. Candidates should have a university degree in Chemistry with a minimum of a first class honours degree.

Marketing - Applicants should have a broad interest in all aspects of marketing. The successful applicant will be a political scientist with specialist teaching and research interests in one, or preferably more, of the following areas: Japanese politics, Soviet politics, comparative politics and modern political theory.

Management Systems - Applicants should have a strong background in the area of Management Information Systems, or a related area. The successful applicant will be responsible for the application of formal financial planning models and the use of operations research and of statistical packages related to managerial situations.

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Polytechnics

ULSTER POLYTECHNIC Faculty of Arts

LECTURER II/SENIOR LECTURER PAINTING (Fixed term appointment until 30 September 1984) An experienced professional painter, preferably with postgraduate qualifications in Painting, is required for the post of Lecturer II/ Senior Lecturer in Painting. The post is full-time and the successful candidate will be expected to teach and conduct research in the field of Painting.

Faculty of Business and Management LECTURER II/SENIOR LECTURER MANPOWER STUDIES (Fixed term appointment until 30 September 1984) The ideal candidate will be a graduate with substantial managerial experience in Personnel Management or a related field. He/she will be expected to teach (mainly Training and Development) to a wide range of students on courses ranging from the Postgraduate Diploma in Personnel Management to the BSc in Business and Management.

Faculty of Social and Health Sciences. LECTURER II/SENIOR LECTURER SPEECH THERAPY (Fixed term appointment until 30 September 1984) Applicants should hold a professional qualification recognised by the College of Speech Therapists and have a good clinical experience in child language pathology and therapy. Research or teaching at undergraduate level or a graduate qualification would be additional requirements.

HONG KONG POLYTECHNIC DEPARTMENT OF APPLIED SCIENCE LECTURER IN PHYSICS Post available from September 1982 - 1984. The successful candidate will be expected to teach and conduct research in the field of Physics. The post is full-time and the successful candidate will be expected to teach and conduct research in the field of Physics.

LONDON POLYTECHNIC OF THE SOUTH BANK TEMPORARY LECTURER IN BUSINESS ADMINISTRATION (2 Posts) Applications are invited for the post of Temporary Lecturer in Business Administration. The successful candidate will be expected to teach and conduct research in the field of Business Administration.

LONDON POLYTECHNIC OF THE SOUTH BANK DEPARTMENT OF HOME ECONOMICS LECTURER II/SENIOR LECTURER TEXTILES (Ref HE10) Applications are invited for the post of Lecturer II/ Senior Lecturer in Textiles. The successful candidate will be expected to teach and conduct research in the field of Textiles.

POLYTECHNIC OF THE SOUTH BANK FACULTY OF EDUCATION, HUMAN AND SOCIAL STUDIES Department of Home Economics and Consumer Studies

Head of Department GRADE IV (Ref. HE11) Applications are invited for this post which is to be filled as soon as possible. The Department is primarily concerned with a full-time BEd Home Economics for Secondary Teachers and a new BSc Food Textiles and Consumer Studies which is commencing in September 1982.

Further information and application forms are available from the Staffing Office, Polytechnic of the South Bank, 100, Borough Road, London SE1. Closing date for applications is 31 August 1982.

The Polytechnic Council invites applications for 2 posts of Deputy Director. Applications should be sent to the Staffing Office, Polytechnic of the South Bank, 100, Borough Road, London SE1. Closing date for applications is 31 August 1982.

POLYTECHNIC OF THE SOUTH BANK DEPARTMENT OF GEOGRAPHY AND GEOLOGY RESEARCH ASSISTANTSHIPS

Applications are invited for the following posts available from 1st September 1982: 1. Management of chalk, geology by geology on the North Downs, Surrey (one year); 2. Field studies level change on the coast of East Sussex (one year).

General Vacancies. For further details and application forms contact the Staffing Office, Polytechnic of the South Bank, 100, Borough Road, London SE1. Closing date for applications is 31 August 1982.

Handwritten note: 1982/83

Polytechnics continued

TEESSIDE POLYTECHNIC DEPARTMENT OF DESIGN

Applications are invited for the post of Lecturer in Design... The Department is seeking a Ph.D. candidate with a BA Honours Degree...

Fellowships

GLASGOW UNIVERSITY OF MUSIC

DEPARTMENT OF MUSIC FELLOW IN COMPOSITION Applications for a one year fellowship...

Administration

COUNCIL FOR NATIONAL ACADEMIC AWARDS ADMINISTRATIVE ASSISTANT

Following the promotion of the current post-holder, a successor is sought as the Head of the unit...

Leicestershire UNIVERSITY ADMISSIONS CONSULTANT Salary: £5,988-£12,141

Colleges of Art

KENT COUNTY COUNCIL EDUCATION DEPARTMENT

Applications are invited for the post of Lecturer in the Design and Completion of a Colour Dictionary...

Fellowships

Courses

LONDON UNIVERSITY OF LONDON INSTITUTE OF ART HISTORY AND CRITICISM IN SCHOOLS An in-service course for primary and secondary school teachers...

LONDON POLYTECHNIC LECTURER IN TRANSPORT DESIGN Salary: £7,500 - £11,700

NORTH STAFFORDSHIRE POLYTECHNIC ASSISTANT SECRETARY (COMMITTEES) Applications are invited for the above post...

PAISLEY COLLEGE RESEARCH FELLOW Applications are invited for a research fellowship initially of two years beginning 1st September, 1982...

BRIGHTON POLYTECHNIC Department of Mechanical and Production Engineering RESEARCH ASSISTANT IN HEAT TRANSFER

RESEARCH ASSISTANTS commencing Autumn 1982, to work on the following topics: Astronomy; Optical astronomical techniques...

THE OPEN UNIVERSITY INSTITUTE OF EDUCATIONAL TECHNOLOGY Applications are invited from recent graduates in education...

GLASGOW THE UNIVERSITY OF CASE AWARD HOUSING STUDIES

GLASGOW THE UNIVERSITY OF HOUSING STUDIES Candidates will be invited to provide professional opinions on a range of housing issues...

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BRIGHTON POLYTECHNIC FACULTY OF EDUCATION STUDIES Communication and Social Skills Project RESEARCH FELLOW £6,885-£9,330

BRIGHTON POLYTECHNIC FACULTY OF EDUCATION STUDIES Communication and Social Skills Project RESEARCH FELLOW £6,885-£9,330

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BRIGHTON POLYTECHNIC FACULTY OF EDUCATION STUDIES Communication and Social Skills Project RESEARCH FELLOW £6,885-£9,330

Colleges of Further Education

Inner London Education Authority

London College of Printing

Applications are invited for the following Headship vacancies: Department of Design, Department of Business Studies, Department of Machine Printing

Worcester College of Higher Education

Applications are invited for a temporary (one year) post of Lecturer in Education...

College of St. Mark & St. John

Modern European History Part-time Lectureship Applications are invited from suitably qualified persons for part-time lectureship in Modern European History...

Overseas continued

Western Australian Institute of Technology TENURED APPOINTMENT SENIOR LECTURER AUDITING

Western Australian Institute of Technology SENIOR LECTURER AUDITING

Western Australian Institute of Technology SENIOR LECTURER AUDITING

THE NEW SOUTH WALES INSTITUTE OF TECHNOLOGY SYDNEY - AUSTRALIA

The New South Wales Institute of Technology is established to provide a wide range of courses for those entering or already employed in industry, commerce and government...

FACULTY OF MATHEMATICAL & COMPUTING SCIENCES SCHOOL OF COMPUTING SCIENCES HEAD OF SCHOOL

The School offers a Bachelor's Degree in Computing Science, a postgraduate diploma in Data Processing, and a Master's Degree by Research and Thesis...

SCHOOL OF FINANCE & ECONOMICS PRINCIPAL LECTURER IN ECONOMICS

The School of Finance and Economics provides subjects for the Bachelor of Business Administration and for the graduate program in a range of economics and finance subjects...

FACULTY OF BUSINESS STUDIES SCHOOL OF BUSINESS AND PUBLIC ADMINISTRATION ASSOCIATE HEAD

The School of Business and Public Administration is one of four Schools in the Faculty of Business Studies, the largest Faculty in the Institute...

FURTHER INFORMATION AND METHOD OF APPLICATION

Salaries for these positions are as follows: Head of School - \$340,890 to \$413,904; Associate Head of School - \$210,890 to \$283,904...

Queensland Institute of Technology Brisbane - Australia DIRECTOR The Council of the Queensland Institute of Technology invites applications and enquiries for the position of Director.

UNIVERSITY OF NATAL DEPARTMENT OF MUSICAL DURBAN, SOUTH AFRICA Applications are invited from suitably qualified persons, regardless of sex, religion, race, colour or national origin...

UNIVERSITY OF NATAL DEPARTMENT OF MUSICAL DURBAN, SOUTH AFRICA Applications are invited from suitably qualified persons, regardless of sex, religion, race, colour or national origin...

